

REMARKS

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding office action is respectfully requested.

Claims 52-59 remain in this application. Applicant believes that no new matter is added to the application as part of this response.

1. Information Disclosure Statement

Applicant submits herewith a copy of the missing page of the Information Disclosure Statement received on January 8, 2002.

2. Drawings

The Examiner has objected to the drawings, remarking that the drawings submitted on January 11, 2002 are different than those submitted on September 17, 2001.

Neither Applicant's in-house agent nor outside counsel has any record of a second set of drawings submitted in the present application. Applicant also notes that a PAIR record generated on November 23, 2003 also fails to show any drawings dated January 11. The correct drawings for the present application are those submitted with the application on September 17, 2001, and that appear in the published application (US 2002/0076655). Applicant notes that the drawings in the publication appear to correspond to the specification.

Applicant requests that the Examiner ignore the second set of drawings, and examine the drawings submitted on September 17, 2001. If this request is improper, Applicant requests that the Examiner contact the undersigned by telephone.

3. Claim Rejections – 35 U.S.C. § 112

The Examiner has rejected claim 55 under 35 U.S.C. § 112, second paragraph, as being indefinite.

Applicant has amended claim 55 to depend from claim 54, and requests that the rejection thereof under 35 U.S.C. § 112 be withdrawn.

4. Claim Rejections – Miura

The Examiner has rejected claims 1-4, 15-17, 42 and 52 under 35 U.S.C. § 102 as being anticipated by Miura (US 5,978,538). The Examiner has also rejected under 35 U.S.C. § 103 claims 5-7, 9-14, 18-20 and 53-59 as being unpatentable over Miura; and claims 8 and 21-23 as being unpatentable over Miura in combination with other references.

Claims 1-23 and 42 have been canceled without prejudice.

Claim 52 recites the step of “adjusting the pulse energy of the laser beam within a range in which an accompanying generation of heat has the effect of saturating refractive index increases associated with incremental increases in the pulse energy”. The present inventors have discovered that as pulse energy increases, the heat generated by pulse absorption operates to partially reduce the refractive index change caused by the pulse. As such, refractive index change does not monotonically increase with pulse energy; rather, there is a pulse energy for which the refractive index change is saturated; higher pulse energies will give lower refractive index changes. Example 10 is based on this step, with the results being shown in Fig. 9.

Applicant submits that Miura neither teaches nor suggests the use of a pulse energy at which the refractive index change is saturated. In fact, Miura appears to only to realize a lower limit on the pulse energy, with increasing pulse energies yielding monotonically increasing refractive index changes. (e.g. “The laser beam preferably has a peak power density of 10^5 W/cm² or more... The light-induced effect on a refractive index is accelerated with the increase of the peak power density,...”, col. 2, lines 20-37). Since Miura neither teaches nor suggests this claimed step, Applicant submits that claim 52 is patentable over Miura.

Claim 52 also recites a pulsed laser beam having a pulse duration less than 150 femtoseconds. In rejecting claim 52, the Examiner took the position that “a ns or a ps is less than 150 fs as set forth in instant claim 52.” Applicant notes that 1 ns = 1000 ps, and 1 ps = 1000 fs. See <http://physics.nist.gov/cuu/Units/prefixes.html>. As such, 150 fs = 0.15 ps = 0.00015 ns, much smaller than 1 ps or 1 ns.

Claims 53-59 depend ultimately from claim 52, and are believed to be patentable for at least the reasons described above with respect thereto.

Applicant therefore requests that the Examiner withdraw the rejections under 35 U.S.C. §§ 102-103 under Miura of claims 52-59.

5. Conclusion

Applicant respectfully requests consideration of the pending claims and prompt further action thereon.


Applicant believes that no extension of time is necessary to make this Response timely. Should Applicant be in error, Applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. §1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to James V. Suggs at 607/974-3606.

Date: 3-2-04

Respectfully submitted,

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